Lower West Coast Water Supply Plan Workshop

March 5, 2010

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Everglades Restoration and Capital Projects

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

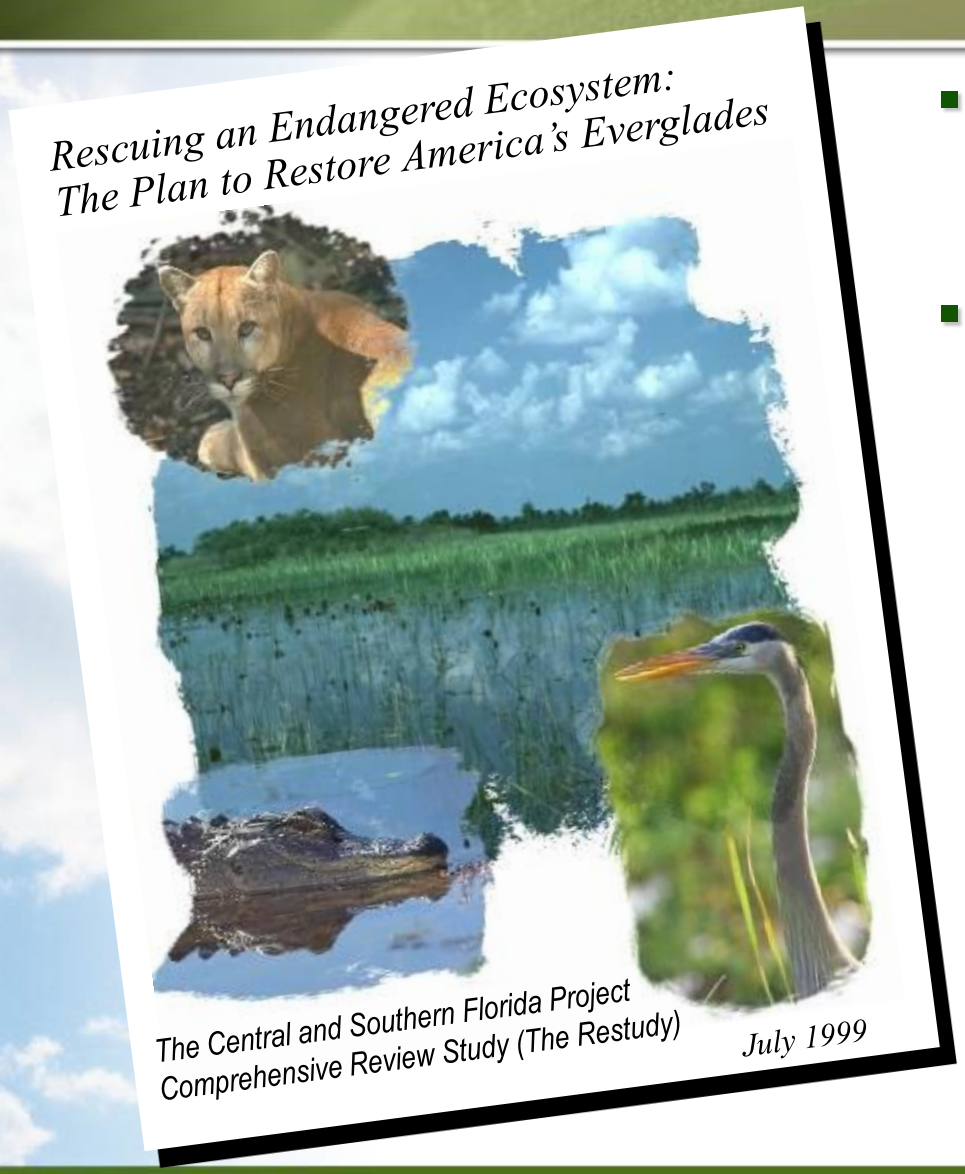
Comprehensive Everglades Restoration Plan

sfwmd.gov

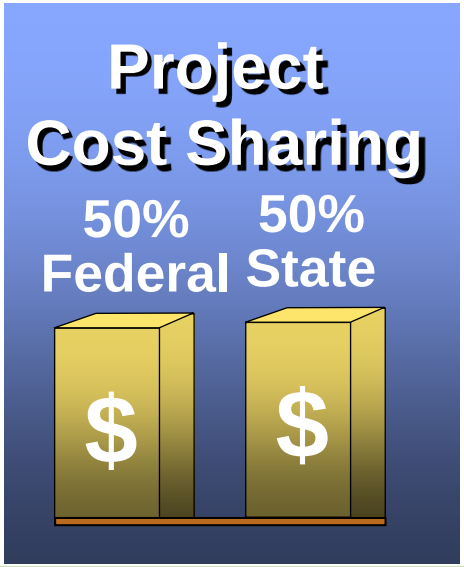
Presentation Outline

- Comprehensive Everglades Restoration Plan (CERP)
- Southwest Florida Feasibility Study (SFFS)
- Caloosahatchee River (C-43) West Basin Storage Reservoir
- Caloosahatchee River (C-43) ASR Pilot Project
- Southern CREW
- Picayune Strand Restoration

Comprehensive Everglades Restoration Plan



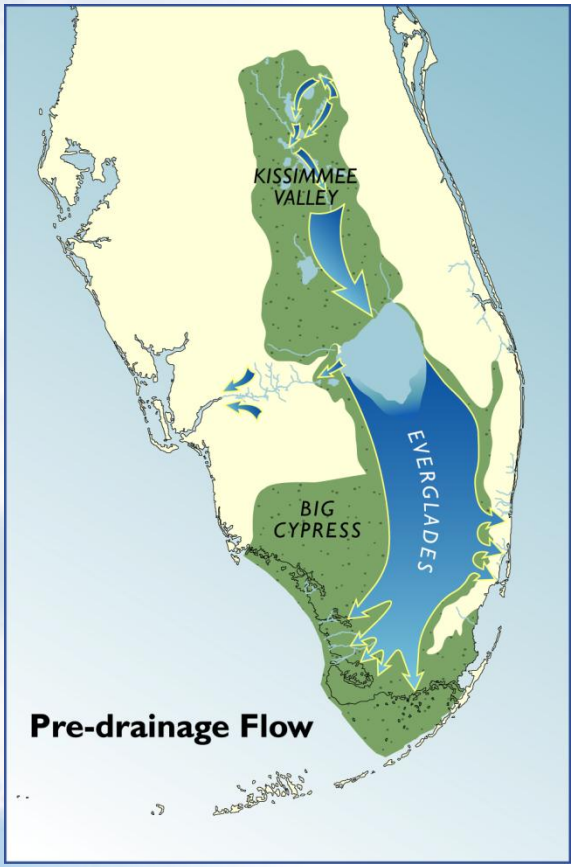
- On July 1,1999, the Secretary of the Army and the State of Florida presented the Plan to Congress
- Approved by Congress as the Framework for Everglades Restoration in the Water Resources Development Act of 2000 (WRDA-2000)

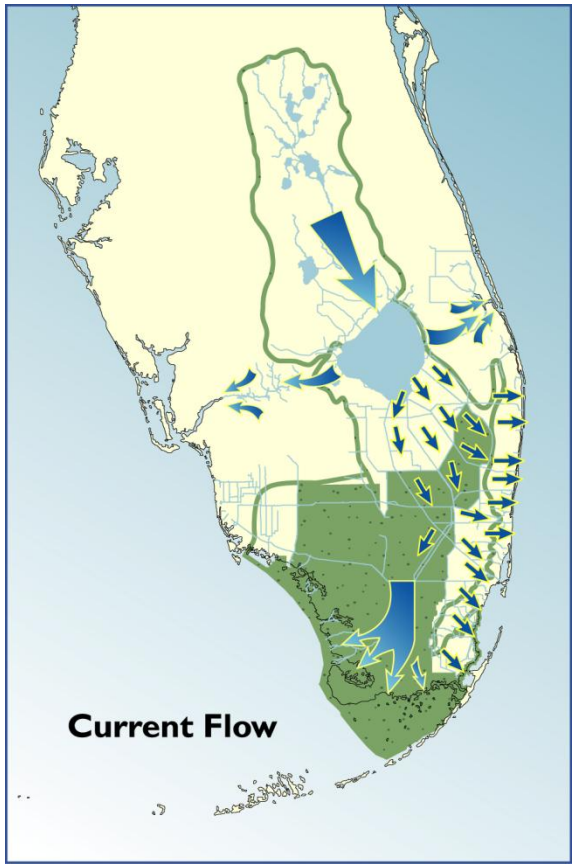


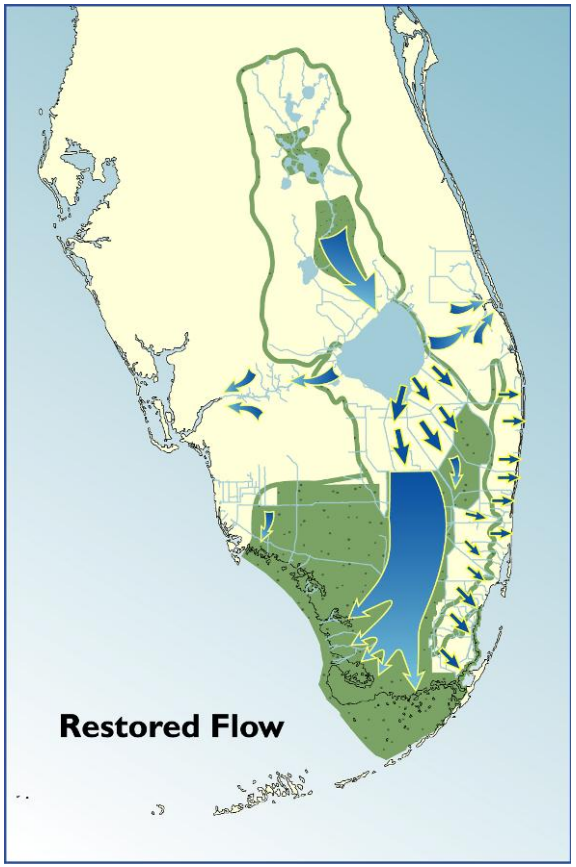
Comprehensive Everglades Restoration Plan

- Restore and improve quality, quantity, timing and flow of water
- Provide sustainable water supply to meet environmental, agricultural and urban needs

CERP - The Goal







Natural Areas

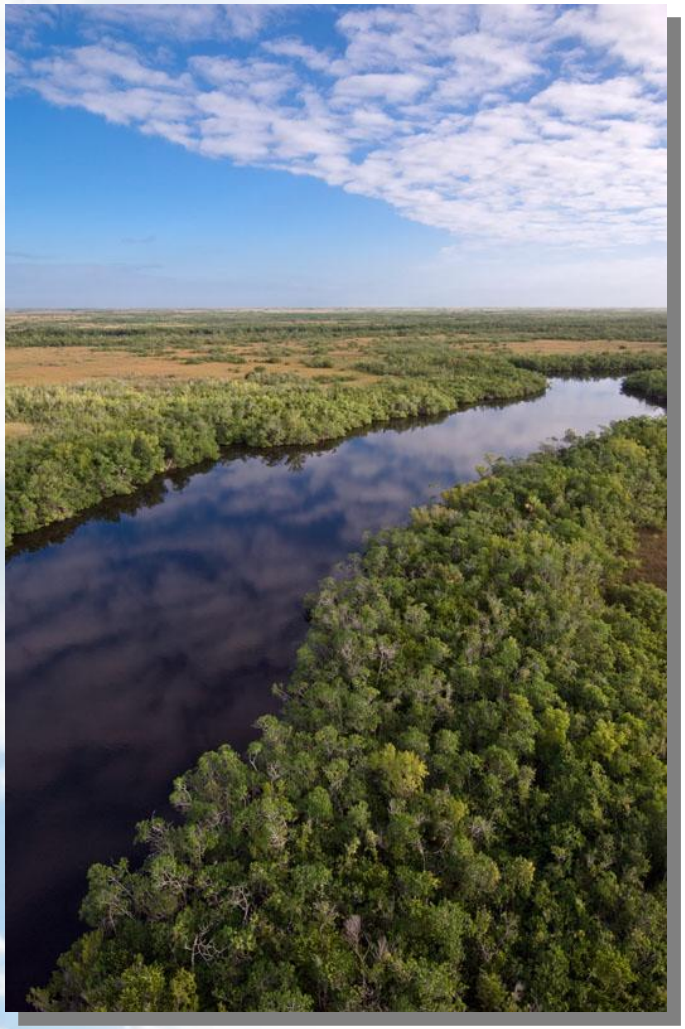
Water Flows

Pre-drainage Boundary

Comprehensive Everglades Restoration Plan

- Includes 68 components to be implemented over 35 years
- Features include:
  - Aquifer Storage & Recovery
  - Surface Water Storage Reservoirs
  - Stormwater Treatment Areas
  - Seepage Management
  - Removing Barriers to Sheetflow
  - Operational Changes
  - Reuse Wastewater

Restoration Progress
SFWMD Expedited Projects

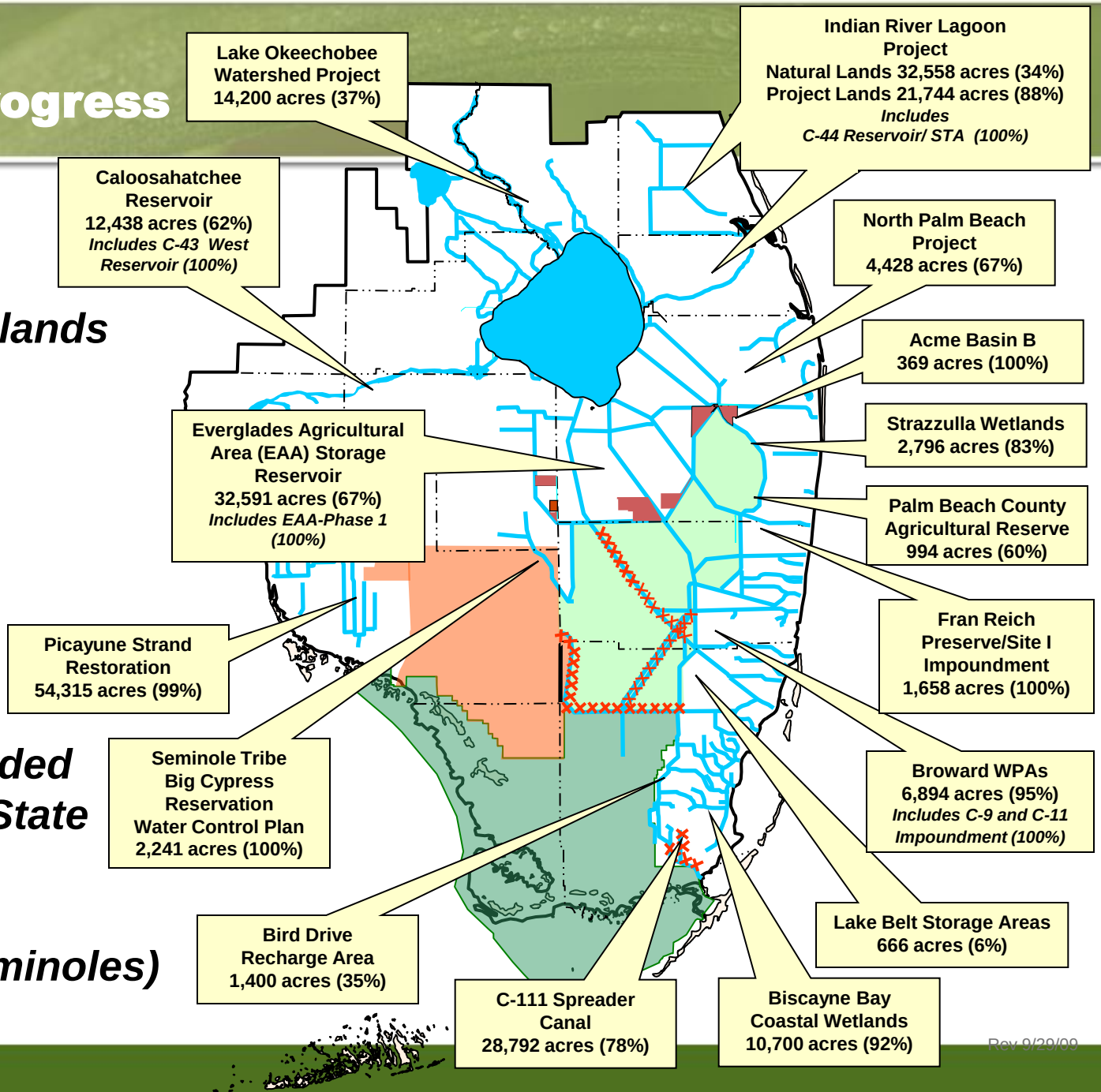


- Picayune Strand
- North Palm Beach County Project – L-8 Reservoir
- Acme Basin B
- Lakeside Ranch
- C-111 Spreader Canal Western Project
- Biscayne Bay Coastal Wetlands
- Indian River Lagoon - C-44 Reservoir/STA
- C-43 West Reservoir

CERP Land Acquisition Progress

Approximately 232,767 acres or 60% of estimated lands needed for CERP acquired!

$1.63 Billion expended
- ***$1.26B - SFWMD/State***
- ***$247M - Federal***
- ***$116M - Local***
- ***$ 8M - Tribal (Seminoles)***



Rev 9/29/09

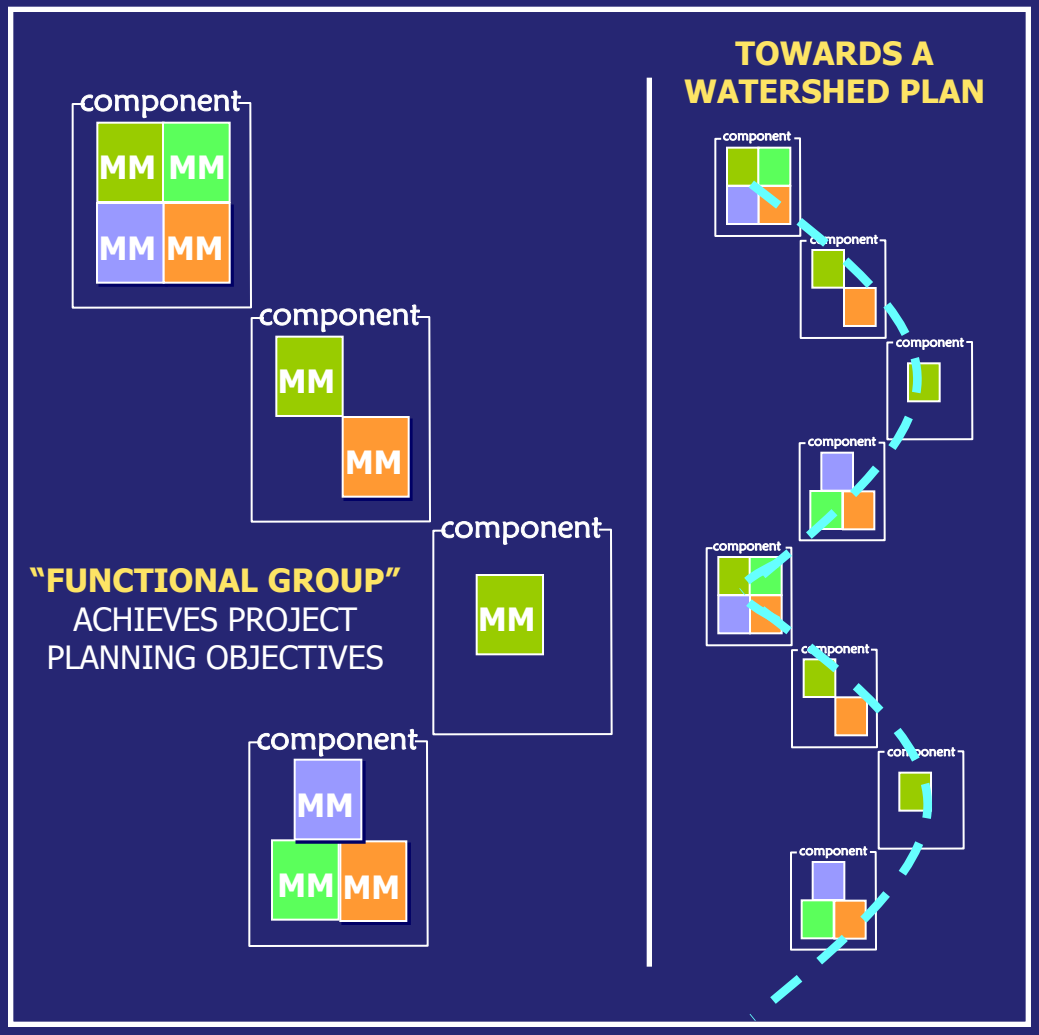
Southwest Florida Feasibility Study (SFFS)

SWFFS Study Area

- 4,300 sq. mi.
- Encompasses all of Lee County and portions of Collier, Charlotte, Hendry, Glades, and Monroe Counties
- Project boundary corresponds with the South Florida Water Management District's (SFWMD) Lower West Coast Water Supply Plan Planning Area

Plan Formulation: CWMP Building Blocks

- Management Measures (MM)
- Components
- Functional Groups



(A)
Barron River Flow-way

- Pump and spreader canal
- Canal backfill
- Culverts

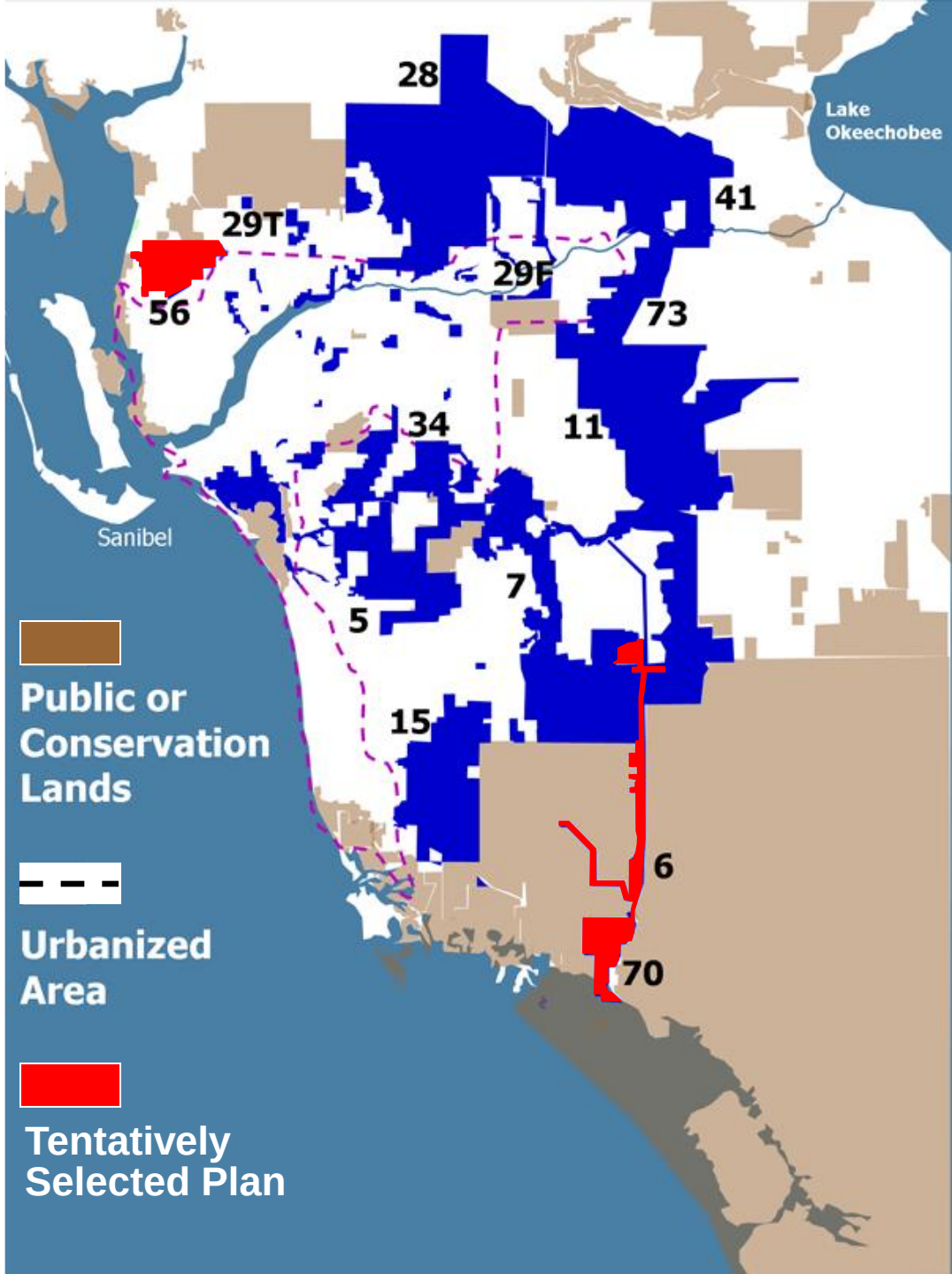
(B)
Coastal Fakahatchee

- Berm removal
- Backfill ditches
- Culverts
- Invasive species removal

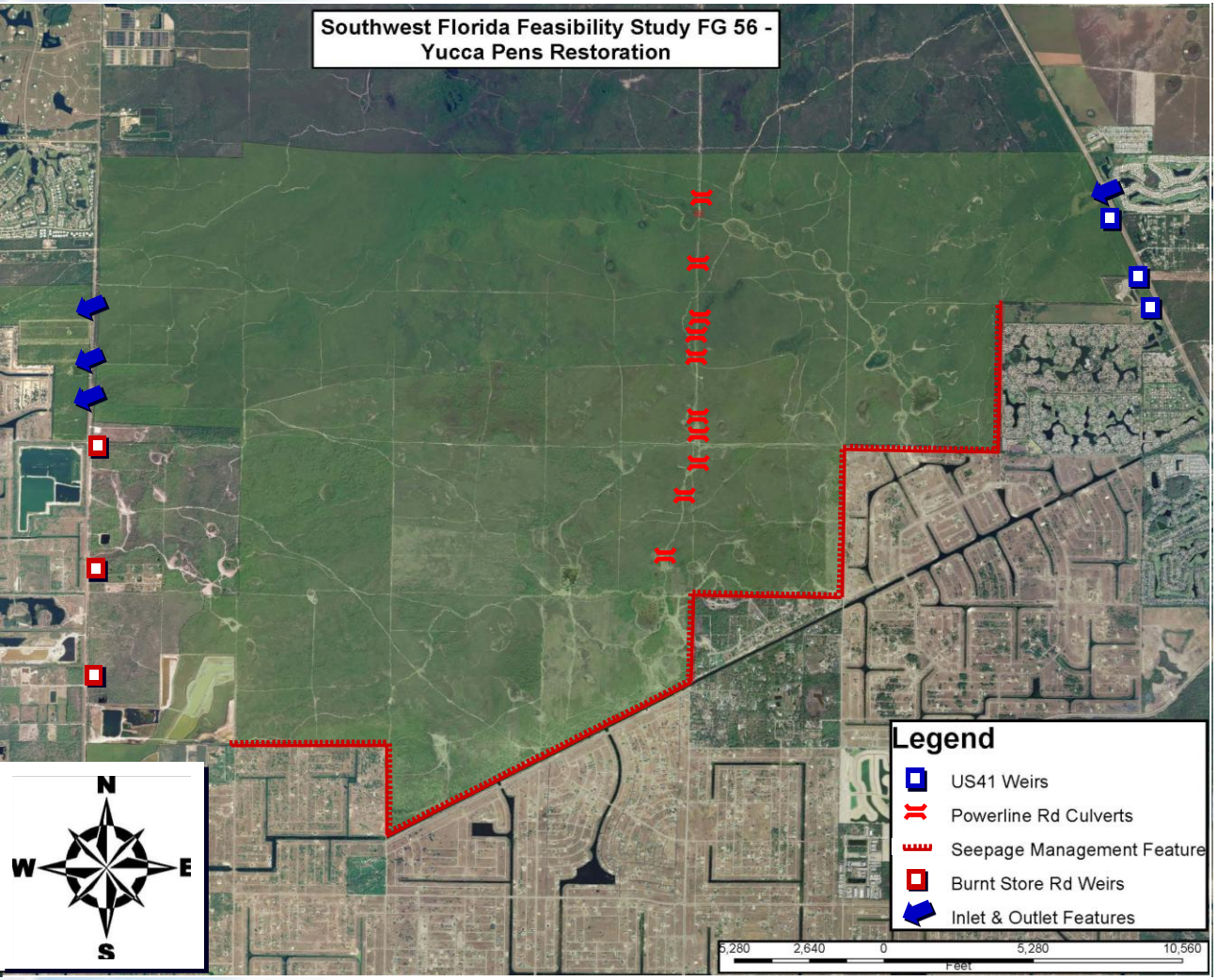
2 Functional Groups
Achieving Water Quality and Large Mammal Connectivity

Building the SWFFS Comprehensive Watershed Master Plan

- Babcock Ranch (28)
- Estero Creeks and Headwaters Flow-ways (34)
- South Caloosahatchee Ecoscape (73)
- Caloosahatchee Creeks Tidal (29T)
- Caloosahatchee Creeks Freshwater (29F)
- Belle Meade Flow-way Restoration (15)
- Okaloacoochee Slough (11)
- SR 29 / Barron River Flow-way Restoration (6)
- Yucca Pens (56)
- North Caloosahatchee Ecoscape (41)
- Corkscrew Watershed (5)
- Coastal Fakahatchee (70)
- Camp Keais Strand (7)

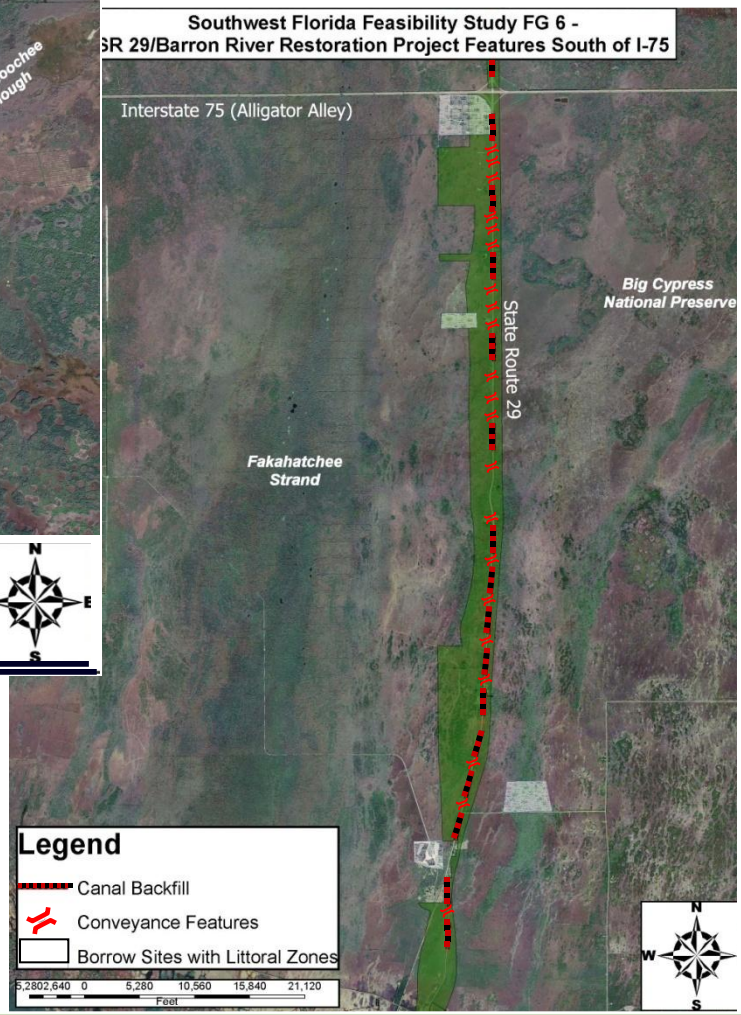


Tentatively Selected Plan (TSP) Summary Functional Group 56 (13,879 acres)

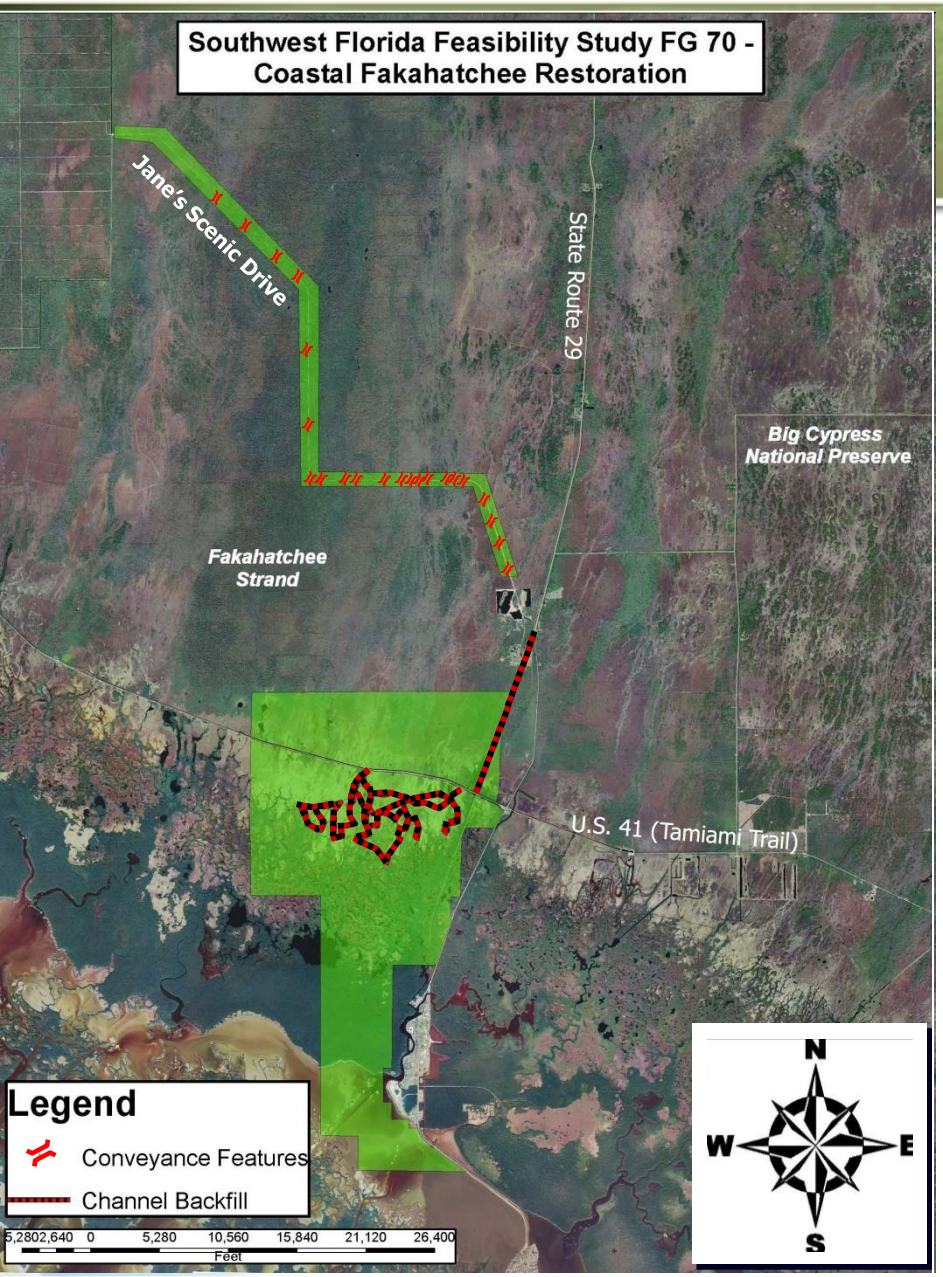


- Restores natural flow-way through Gator Slough to the coast
- Provides landscape connectivity from Lake Okeechobee, through Fisheating Creek, to Babcock Ranch, and CM Webb conservation lands to Charlotte Harbor National Estuary
- Reduces pulses of freshwater discharge to Charlotte Harbor National Estuary and Matlacha Pass
- Removes exotics

TSP Summary Functional Group 6
(10,671 acres)



- Backfills 50% of SR29 canal from estuary north, beyond I-75
- Provides water quality improvement and distributes water to the southwest through Fakahatchee Strand to restore natural hydrology and re-establish flow-way to coast
- Provides landscape connectivity with Okaloacoochee Slough and the Florida Panther NWR to the north, Big Cypress Basin National Preserve to the east, and Fakahatchee Strand to the west



TSP Summary Functional Group 70 (11,405 acres)

- Improves hydrology throughout area with additional culverts, berm removal, and canal and weir improvements
- Provides landscape connectivity between Ten Thousand Islands estuary to Fakahatchee Strand and Big Cypress National Preserve

SWFFS Study Milestone Schedule

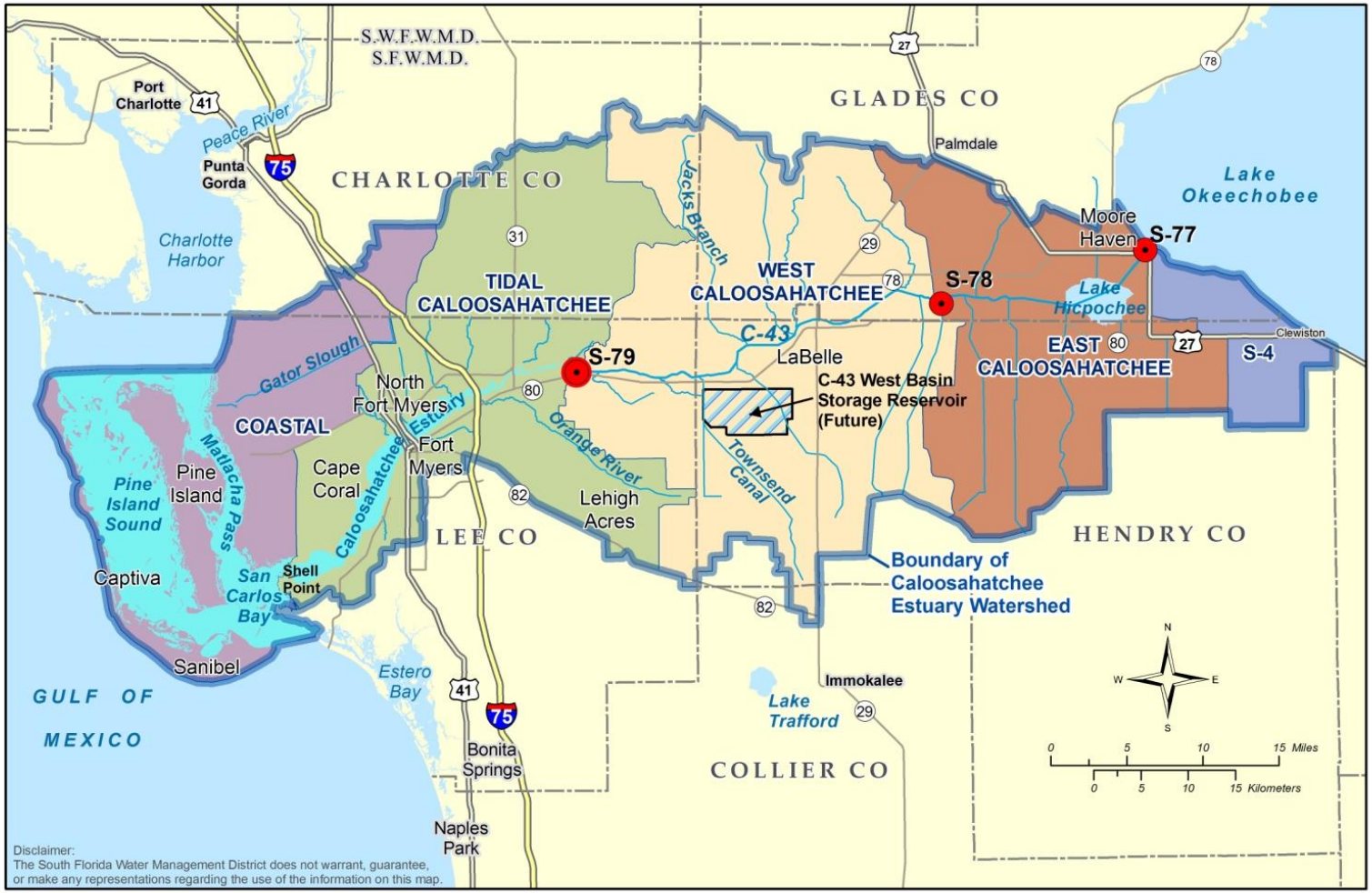
Submit Draft Report to HQ for Review	Apr 2010
Alternative Formulation Briefing	May 2010
NEPA/Public Review of Draft Report	Jun 2010
Final Report in Federal Register	Dec 2010
Chief's Report	Feb 2011

FG 70 and FG 6

FG 56

Caloosahatchee River (C-43) West Basin Storage Reservoir

Caloosahatchee River (C-43) West Basin Storage Reservoir (CRWBSR)



Caloosahatchee Estuary Watershed

Caloosahatchee River (C-43) West Basin Storage Reservoir (CRWBSR)

- Test cell complete
- Water Quality Assessment Complete
- Project final design and permitting complete
- Approximately 6,000 acres of citrus to be cleared by March 2010
- Final Project Implementation Report (PIR) submitted to Corps Headquarters for approval
- Chief's Report, March 2010
- Record of Decision, July 2010
- Next Water Resources Development Act

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Caloosahatchee River Aquifer Storage and Recovery Pilot Project

Caloosahatchee River Aquifer Storage and Recovery (ASR) Pilot Project

- **Purpose:** To evaluate the technical feasibility of constructing up to 43 high-capacity ASR wells in the Caloosahatchee River Basin, as contained in the Comprehensive Everglades Restoration Plan
- **Initial Siting:** Focused on Berry Groves, with the concept that the ASR wells would be integrated with a planned impoundment at that location

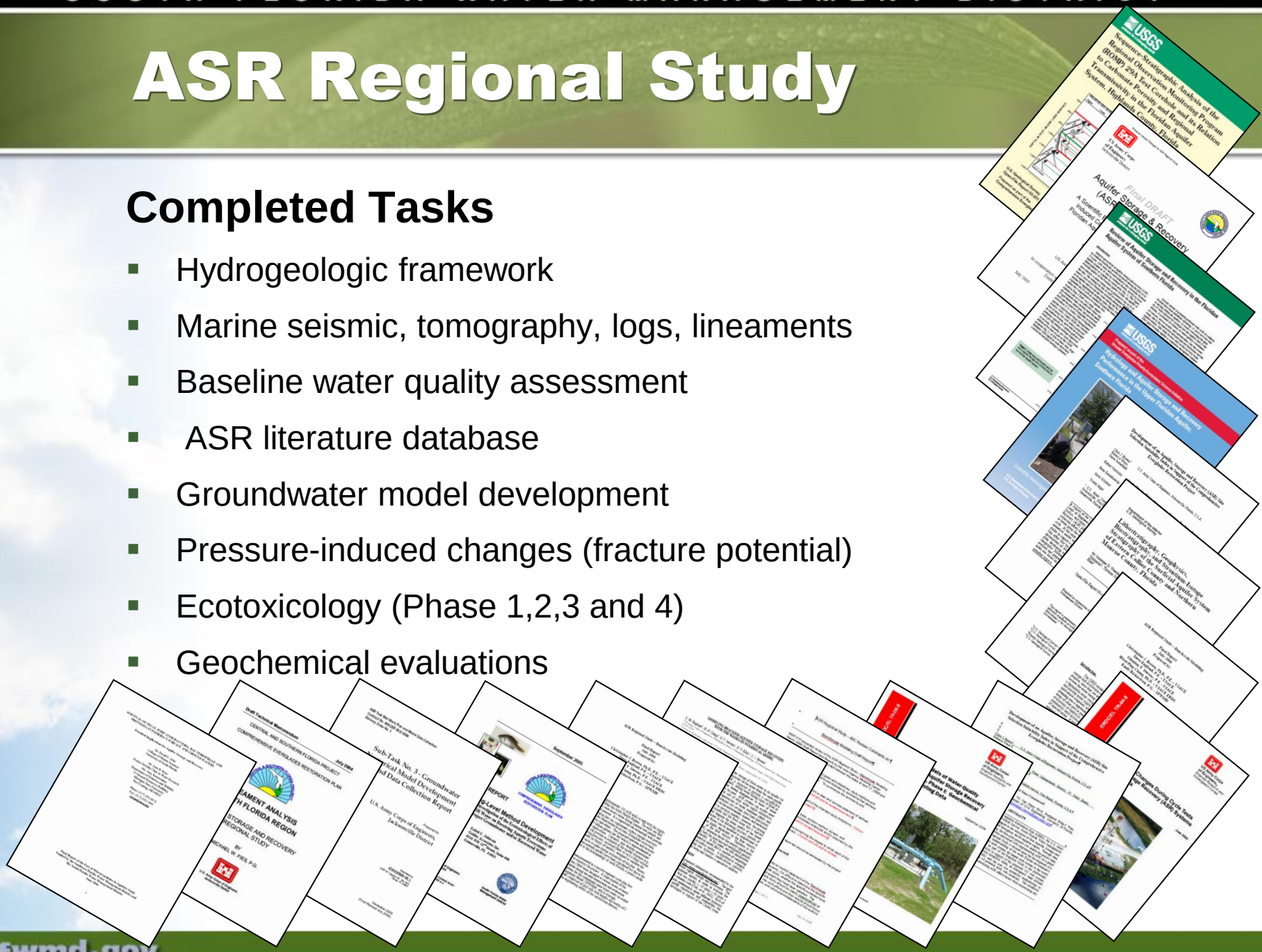
Caloosahatchee River Aquifer Storage and Recovery (ASR) Pilot Project

- Design and permitting - completed 2003
- Exploratory well constructed at Berry Groves - 2004
- Findings - The Floridan aquifer at this location is composed of unconsolidated sand and not conducive to high-capacity ASR
- Additional hydrogeologic studies indicated similar unfavorable conditions are present across the Berry Groves location
- Due to site conditions, explorations at Berry Groves site have been suspended

ASR Regional Study

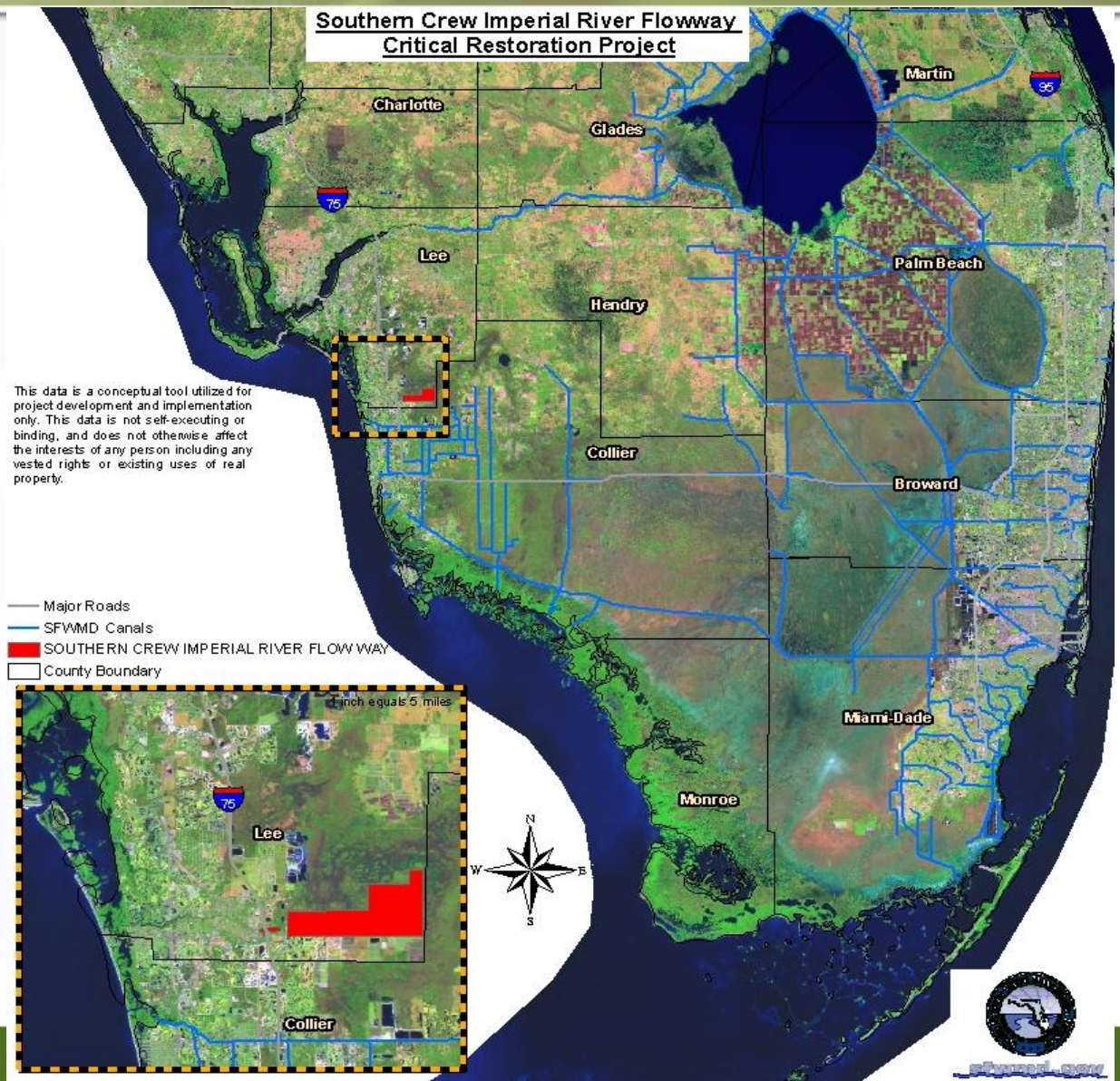
Completed Tasks

- Hydrogeologic framework
- Marine seismic, tomography, logs, lineaments
- Baseline water quality assessment
- ASR literature database
- Groundwater model development
- Pressure-induced changes (fracture potential)
- Ecotoxicology (Phase 1,2,3 and 4)
- Geochemical evaluations



Southern CREW

Southern CREW Critical Restoration Project



Southern CREW Critical Restoration Project - Completed

Wetland restoration to restore historic wetland sheetflow:

- Acquired approximately 3,770 acres
- Removed exotics from 4 sq. mi.
- Removed 44 homes/trailers
- Plugged 33 ditches and cut 33 roads

Flood protection improvements to the Imperial River flood plain:

- Reconstructed the Kehl Canal Weir
- Increased bridge spans
- Removed bridges and abutments
- Completed channel cleaning to reduce channel impacts

Southern CREW Critical Restoration Project – Current Status

- 3,755 acres of 4,116 acres needed are acquired
- Remaining acquisitions complete by September 2010
- Initial design started, complete by September 2011
- Permitting complete - September 2011
- Construction start - October 2011
- Construction complete - September 2012

Picayune Strand Restoration

Picayune Strand - Completed

- Seven miles of Prairie Canal filled
- 65 miles of roadway removed
- 17 culverts constructed to restore natural sheetflow
- More than 13,000 acres of restored and enhanced habitat
- Groundbreaking for Merritt Pump Station held on January

Picayune Strand – Current Status

- Groundbreaking for Merritt Pump Station and Phase II Road Removal held in January 2010
- Complete remediation of chlordane impacted soils in Spring 2010
- Complete remediation of lead impacted soils due to illegal gun range, Spring 2010
- Start construction of Faka Union Pump Station


U.S. Army Corps of Engineers /
Conservancy of Southwest Florida

Questions?